

### In The Claims

Applicant submits below a complete listing of the current claims, with any insertions indicated by underlining and any deletions indicated by strikeouts and/or double bracketing.

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of the Claims

1. (Currently amended) A An integrated circuit chip including a pump comprising:  
a cavity-(2) formed in an insulating substrate-(1), ~~the~~ a upper portion of the substrate located in the vicinity of the cavity forming a border,  
a conductive layer-(3) covering the inside of the cavity all the way to the border and possibly covering the border,  
a flexible membrane-(6), formed of a conductive material, placed above the cavity and bearing against the border,  
a dielectric layer-(7) covering the conductive layer or the membrane to insulate the portions of the conductive layer and of the membrane which are close to each other,  
~~at least one ventilating duct (4; 10) formed in the insulating substrate which emerges into the cavity through an opening (O1; O2) of the conductive layer, and~~  
terminals of application of a voltage-(V) between the conductive layer and the membrane;  
at least one of the ventilating ducts emerging into the cavity.
2. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, wherein said cavity-(2) has substantially the shape of a cup so that the interval between the conductive layer (3) and the membrane-(6) progressively increases from the border to the bottom of the cavity.
3. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, wherein the membrane-(6) is in an idle state when no voltage-(V) is applied between said terminals, the application of a voltage deforming the membrane by drawing it closer to the conductive layer (3), the suppression of the voltage bringing the membrane back to its idle state.

4. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, ~~comprising wherein~~ a single duct-(4) emerging substantially at the bottom of the cavity.

5. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, ~~comprising two ducts (4, 10), one cup emerging wherein one duct emerges~~ substantially at the bottom of the cavity, ~~the other one emerging of the pump, and another duct emerges~~ close to the border of the pump.

6. (Currently amended) ~~An~~ The integrated circuit-comprising the pump chip of claim 1, wherein the pump being connected to an assembly of ventilating ducts are formed at least in part in the semiconductor substrate of the integrated circuit.

7. (Currently amended) A method for forming a pump in an integrated circuit, which comprises the steps of:

[[ - ]] forming a cavity-(20) in ~~an~~ a first insulating substrate-(21) layer, the upper portion of the ~~substrate~~ first insulating layer located in the vicinity of the cavity forming a border;

[[ - ]] covering the inside of the cavity all the way to the border and possibly the border with a first conductive layer-(30);

[[ - ]] forming an opening-(03) of the conductive layer emerging into a ventilating duct (31) previously formed in the first insulating substrate layer;

[[ - ]] filling the cavity with a sacrificial portion-(32);

[[ - ]] covering the sacrificial portion and the portion of the first conductive layer placed above the border with a ~~first~~ second insulating layer-(33) and with a ~~second-insulating~~ conductive layer-(34);

[[ - ]] forming a small opening-(04) in the second conductive layer and in the first insulating layer;

- removing the sacrificial portion; and

[[ - ]] covering the second conductive layer with a ~~second~~ third insulating layer-(35) to close back the opening.

8. (Currently amended) The method of claim 7, wherein the step of forming a cavity (20) in ~~an~~ a first insulating substrate ~~(21) layer~~ comprises the steps of:

[[ - ]] forming insulating pads ~~(23, 24)~~ on a ~~first~~ fourth insulating layer ~~(22)~~;

[[ - ]] covering the ~~first~~ fourth insulating layer and the insulating pads with a ~~second~~ fifth insulating layer (25); and

[[ - ]] performing a chem.-mech. polishing of the ~~second~~ fifth insulating layer to expose the insulating pads, the etch method of the polishing being such that it etches the ~~second~~ fifth insulating layer more than the insulating pads, the insulating pads forming said border.

9. (Currently amended) A method for actuating ~~the~~ a pump of an integrated circuit chip of claim 3, wherein a voltage is applied at regular or irregular intervals between said terminals.

10. (New) The integrated circuit chip of claim 1, comprising a temperature sensor and a control circuit activating more or less rapidly the pump according to a wished temperature.